2

$L_{\alpha 1}$ line of antimony as a reference. The CdSb, Cd_3Sb_2, and Cd_4Sb_3 were prepared by fusion of stoichiometric amounts of 99.99%-pure cadmium with antimony containing less than $2 \cdot 10^{-3}$% contaminants. The CdS was prepared by precipitation with pure H_2S from $CdSO_4$-acetic acid solution. The CdO was prepared by decomposition of fresh $Cd(CO_3)_2$ at 550°C. It was found that the $L_{\beta 15,2}$-emission band and the L_{III}-absorption limit of cadmium in CdSb, Cd_3Sb_2, Cd_4Sb_3, and CdS are shifted toward lower wave region in comparison with the corresponding bands of metallic cadmium. No such shift was observed in the case of CdO. It was found that the magnitude of this shift per unit of effective valence declines with increasing ionic character of the chemical bond. In the semiconducting compounds, this shift becomes successively smaller in the following order: CdSb, Cd_3Sb_2, Cd_4Sb_3, CdS, and CdO. The energetic gap between the L_{III}-absorption limit and the $L_{\beta 15,2}$-emission band was found to be proportional to the width of the forbidden zone of a given compound. For the compounds in question, this gap increases with increasing ionic character of the chemical bond in a compound. The $L_{\beta 15,2}$-emission of Cd in its semiconducting compounds and in the metal are shown. Orig. art. has: 5 figures, 3 tables.

SUB CODE: 20, 11 SUBM DATE: 31May65/ ORIG REF: 005/ OTH REF: 008

L 15208-66 EWT(m)/T/EWP(t)/EWP(b) LJP(c) JD

ACC NR: AP6001298 SOURCE CODE: UR/0363/65/001/008/1323/1325

AUTHOR: Ugay, Ya. A.; Ignat'yev, N. A.; Marshakova, T. A.; Aleynikova, K. B.

ORG: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)

TITLE: Preparation of a single crystal of the intermetallic compound Cd_4Sb_3 and its properties

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 8, 1965, 1323-1325

TOPIC TAGS: cadmium compound, antimony compound, zone melting, single crystal growing

ABSTRACT: In order to select a method for preparing Cd_3Sb_3 single crystals, thermographic and x-ray diffraction studies were carried out to determine the temperature and concentration limits of existence of this compound. Four thermal effects were observed on the heating curves of alloys containing from 25 to 51 wt. % Sb: the first (a small endothermic effect) could not be identified; the second (exothermic) corresponds to the conversion $Cd_4Sb_3 \longrightarrow 3CdSb + Cd$; the third (298C) was due to the fusion of the cadmium eutectic; the fourth (438C) was the fusion of CdSb. Zone melting was found to be the most suitable method for preparing Cd_4Sb_3 single crystals. Despite the imperfect structure of the crystals obtained, their electric parameters were more interesting than those of polycrystalline samples, because Cd_4Sb_3 single crystals contain an excess of antimony, which causes a higher carrier concentration. The structure of the compound Cd_4Sb_3 was refined: it was found to belong to the trigonal

Card 1/2 UDC 546.48'221:548.55

L 15208-66
ACC NR: AP6001298

system, Laue class D_{3d} - $\bar{3}m$. In the hexagonal derivation, the lattice parameters a = 13.04 Å, c = 22.45 Å. Orig. art. has: 2 figures and 1 table.

SUB CODE: 11,20 / SUBM DATE: 18May65 / ORIG REF: 004 / OTH REF: 003

Card 2/2

MARSHALKOVICH, S.G., inzh.; GARAN, N.A., inzh.

Improvement of the feed system of BG-35 boilers. Energetik 13 no.6: 9-10 Je '65. (MIRA 18:7)

1. Krasnodarskiy neftepererabatyvayushchiy zavod.

MAISHAL, P.K.

Synthetic diamonds used in enterprises of the Podol'sk district of Kiev. Mashinostroitel' no.10:5 O '64.
(MIRA 17:11)

1. Sekretar' Podol'skogo rayonnogo komiteta Kommunisticheskoy partii Ukrainy, Kiyev.

MARSHAL, V.P.; KHAMISH, L.Ya.; BUNINA, O.F. (Kiyev)

Standardization of the parts and assemblies of children's clothing. Shvein. prom. no. 6:34-38 N-D '65. (MIRA 18:12)

ACCESSION NR: AP4030376 S/ 0190/64/006/003/0561/0567

AUTHORS: Marshal' , Zh.; Marshal', Ye.

TITLE: Utilization of dielectric properties of rod-like macromolecule solutions for determining their length and polydispersity

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 3, 1964, 561-567

TOPIC TAGS: macromolecule, dielectric property, polydispersity, polypeptide, monomer unit, chloroform, electric field, polymerization coefficient

ABSTRACT: A simple theoretical interpretation was given for dilute polymer solutions (less than 1% concentration) with continuous and narrow molecular weight distribution ($M_w/M_n \leq 1.25$). It was assumed that the polymerization coefficient was large. The change in dielectric permeability ε' is given by

$$\frac{\Delta\varepsilon'}{\Delta\varepsilon_0} = \int_0^\infty \frac{n^3 f(n)\,dn}{1+\omega^2 B^2 n^6} \Big/ \int_0^\infty n^3 f(n)\,dn$$

where $f(n)\,dn$ - macromolecule distribution with polymerization coefficient

Card 1/2

ACCESSION NR: AP4030376

between n and n + dn. The dielectric absorption observed in these solutions upon applying an electric field was investigated in polypeptides poly- γ -benzyl-L-glutamate (PBG) and poly-DL-phenylalanin in chloroform with the addition of 0.5% formamides. M_w/M_n measurements (using the dielectric absorption method) agreed well with the coefficient of diffusion measurements. Extrapolating the hydrodynamic lengths of the PBG macromolecules to degree of polymerization n = 1, a value of 2 was found for the monomer unit length $l_0 = l/n$ instead of the value 1.5 Å predicted theoretically. This anomaly is explained by the fact that the molecules in a chloroform solvent possess a 3-spiral conformation, whereas this spiral (or helix) is characterized by a finite flexibility corresponding to a persistent length on the order of 200 Å. Orig. art. has: 21 formulas and 1 figure.

ASSOCIATION: Tsentr issledovaniy makromolekul, Strasburg, Frantsiya (Macromolecule Research Center)

SUBMITTED: 16Sep63 DATE ACQ: 07may64 ENCL: 00

SUB CODE: GC NO. REF SOV: 000 OTHER: 014

Card 2/2

S/190/62/004/006/025/026
B110/B138

AUTHORS: Volkenshteyn, M. V., Kol'tsov, A. I., Marshal', Ch.

TITLE: Investigation of polymers by means of nuclear magnetic resonance. III. Chemical reactions in solutions of poly-γ-benzyl-L-glutamate in trifluoroacetic acid

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 6, 1962, 944-947

TEXT: The behavior of poly-γ-benzyl-L-glutamate (I) in solutions was investigated with regard to the transition from spirals to lumps. The nuclear magnetic resonance spectra of I (molecular weight 150,000) were obtained in mixtures of benzene and trifluoro acetic acid (II) with a JNM-3 spectrometer at 40 kcps. The spectra remained unchanged with an 80% volume increase of II. With further increase a new line appears $\delta = 60$, while that of the methylene group of I bonded to the phenyl decreases at $\delta = 62$. The same occurs for solutions of I in pure II. Hydrolysis of I is assumed, the molecules losing the rigid spiral shape:

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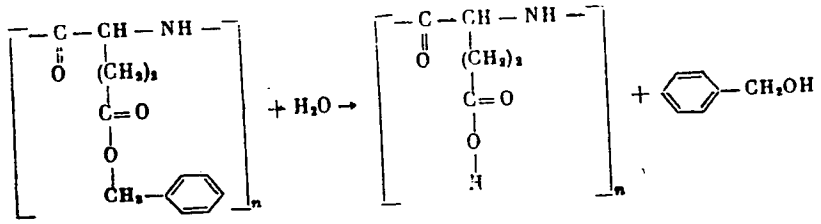
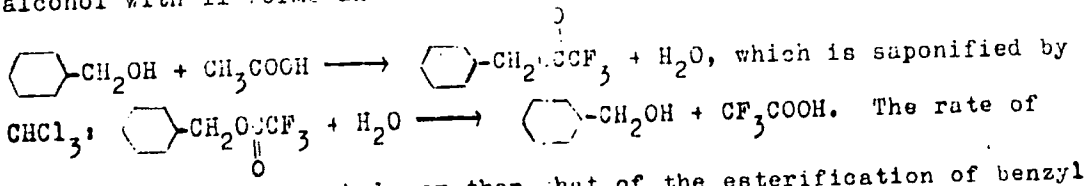
S/190/62/004/006/025/026
B110/B138

Investigation of polymers by means ...



The poly-L-glutamic acid formed thereby remains in solution, the benzyl alcohol with II forms an emulsified ester:



hydrolysis of I is much lower than that of the esterification of benzyl

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Investigation of polymers by means ... S/190/62/004/006/025/026
B110/B138

alcohol. There are 3 figures.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High-Molecular Compounds AS USSR)

SUBMITTED: August 29, 1961

Card 3/3

ACCESSION NR: AP4030376 S/ 0190/64/006/003/0561/0567

AUTHORS: Marshal' , Zh.; Marshal', Ye.

TITLE: Utilization of dielectric properties of rod-like macromolecule solutions for determining their length and polydispersity

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 3, 1964, 561-567

TOPIC TAGS: macromolecule, dielectric property, polydispersity, polypeptide, monomer unit, chloroform, electric field, polymerization coefficient

ABSTRACT: A simple theoretical interpretation was given for dilute polymer solutions (less than 1% concentration) with continuous and narrow molecular weight distribution ($M_w/M_n \leq 1.25$). It was assumed that the polymerization coefficient was large. The change in dielectric permeability ε' is given by

$$\frac{\Delta\varepsilon'}{\Delta\varepsilon_0} = \int_0^\infty \frac{n^2 f(n)\,dn}{1+\omega^2 B^2 n^6} \Big/ \int_0^\infty n^2 f(n)\,dn$$

where $f(n)\,dn$ = macromolecule distribution with polymerization coefficient

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ACCESSION NR: AP4030376

between n and n + dn. The dielectric absorption observed in these solutions upon applying an electric field was investigated in polypeptides poly- γ -benzyl-L-glutamate (PBG) and poly-DL-phenylalanin in chloroform with the addition of 0.5% formamides. M_w/M_n measurements (using the dielectric absorption method) agreed well with the coefficient of diffusion measurements. Extrapolating the hydrodynamic lengths of the PBG macromolecules to degree of polymerization n = 1, a value of 2 was found for the monomer unit length $l_0 = l/n$ instead of the value 1.5 Å predicted theoretically. This anomaly is explained by the fact that the molecules in a chloroform solvent possess a 3-spiral conformation, whereas this spiral (or helix) is characterized by a finite flexibility corresponding to a persistent length on the order of 200 Å. Orig. art. has: 21 formulas and 1 figure.

ASSOCIATION: Tsentr issledovaniy makromolekul, Strasburg, Frantsiya (Macromolecule Research Center)

SUBMITTED: 16Sep63 DATE ACQ: 07may64 ENCL: 00

SUB CODE: GC NO. REF SOV: 000 OTHER: 014

Card 2/2

CZECHOSLOVAKIA/Cultivated Plants - Ornamental. M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15925

Author : Fr. Marshalek
Inst : -
Title : The Cyclamen, Cyclamen persicum.
(Tsiklamen - Cyclamen persicum).

Orig Pub : Ovocnar. a zelimar., 1957, No 2, 52.

Abstract : No abstract.

Card 1/1

MARSHALEK, Miroslav

Experience in organizing mass analyses of carbon in steels.
Zav.lab. 28 no.10:1266-1267 '62. (MIRA 15:10)

1. Traktornyy i podshipnikovyy zavod v g.Brno, Chekhoslovatskoy Sotsialisticheskoy Respubliki.
(Carbon—Analysis)

MARSHALKIN, A. N.

SOV/129-58-9-1/16

AUTHORS: Kidin, I. N., Doctor of Technical Science, Professor; Astaf'yeva, Ye. V. and Marshalkin, A. N., Engineers

TITLE: Features of the Process of Tempering After High Frequency Hardening (Osobennosti protsessa otpuska posle vysokochastotnoy zakalki)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, Nr 9, pp 2-12 + 1 plate (USSR)

ABSTRACT: "Self tempering", the duration of which is a few seconds, is in many cases convenient and economical (Refs 1 and 2). However, this type of heat treatment has not been used adequately due to non-availability of the necessary automatic control and metering apparatus. Of great interest are the results relating to combination of electric tempering with electric hardening (Refs 3-5). An important condition of electric tempering is that uniform heating should be achieved, to the desired depth, without overheating of the surface. In earlier work of the authors (Refs 6-10) it was found that if the speed of heating for hardening is high, the state of the austenite is characterised by a considerable non-uniformity in the carbon content as compared to

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Features of the Process of Tempering After High Frequency Hardening

austenite formed during ordinary slow heating. As a result of this non-uniformity, the austenite to martensite transformation during the cooling will take place within a wider temperature range; the micro-volumes of the austenite which are most saturated with carbon become transformed into martensite at lower temperatures and later than the micro-volumes which are poor in carbon and for which the martensitic point is located at a more elevated temperature. The micro-volumes of the martensite forming at a higher temperature may decompose during the further cooling of the hardening process forming martensite of a lower tetragonality and a finely dispersed carbide phase. A similar phenomenon for tempering after ordinary hardening was investigated in detail by Kurdyumov, G. V. and Oslon, N. (Ref 10) by X-ray methods. In this paper the authors investigate the changes in the structural state and the mechanical properties of a number of engineering and carbon tool steels during ordinary tempering in conjunction with regimes of high frequency hardening and the features of the obtained structure. In the case of rapid induction heating

Features of the Process [illegible]

of steel prior to hardening, a concentration [illegible] can be created in the micro-volumes. Study of this non-uniformity by radiography methods has enabled establishing the fact that the distribution of the carbon at the [illegible] of the induction heating may differ, depending on the heating regime and the character of the initial structure. Micro-structures and micro-radiographs of Steel 45 hardened from 1100°C with various heating speed are reproduced in Fig.1 (plate). The structure is relatively uniform in the case of slow heating, whilst with increasing heating speeds the non-uniformity in the carbon distribution becomes much more pronounced. This was [illegible] by X-ray studies. The features of decomposition during tempering of the non-uniform martensite were also studied; the graph Fig.3 indicates the curves of the change of the (110) lines after tempering of specimens of the Steel 37 and, by comparing the appropriate curves, it is [illegible] that an increase in the heating speed for the same temperature, e.g. 960°C, results in an increase in the width of the line and consequently also in the non-uniformity. In Fig.4 the change of the [illegible]

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Features of the Process of Tempering After High Fre[illegible]

of the maximum carbon concentration dur[illegible]
Steel 40 which prior to hardening was [illegible]
speed of 130°C/sec from 920 and 960°C res[illegible]
influence of low temperature tempering on [illegible]
properties after high frequency hardening [illegible]
by the continuous-successive method of [illegible]
35 Kh; for the impact tests, specimens of [illegible]
were chosen in accordance with the suggestion of
I. V. Kudryavtsev (Ref 15). 100 mm long specimens were
hardened using as a current source a tube oscillator;
the heating speeds in the region of phase transformation
were 50, 100, 200 and 400°C/sec for the temperatures of
900, 1000 and 1100°C. The tempering was effected at
120, 150, 180 and 200°C for heating durations of 1, 3
and 60 minutes. From the tempered specimens the working
part of a length of 55 mm was cut out by the
mechanical method and in this a 0.5 mm notch with
angle of 60° was made. Specimens which have not
right through have been tested on an impact machine with
an impact of 10 kgm. The influence of the high-
Card 4/8 frequency hardening on the impact strength [illegible]

is quite considerable as can be seen from ... Fig.5; in the case of Steel 40 a heating speed of 50°C/sec will ensure an impact strength equ... impact strength obtained after ordinary hardening ... tempering only if the tempering is effected at ...°C. Increase of the hardening temperature to 1000 and 1100°C leads to a considerable decrease of the impact strength. However, an increase in the heating speed prior to hardening to 200°C, and particularly to 400°C, followed by tempering will ensure a considerable improvement of the combination of the toughness and hardness. The highest impact strength was obtained in the case of tempering at 200°C for one hour after hardening from a temperature of 1000°C using a heating speed of 40... °C/sec. By using this regime an impact strength is obtained which is almost double that obtained after ordinary ... followed by equal tempering. In Fig... the change of the impact strength after hardening followed by low temperature tempering is graphed for the Steel 40 hardened from 920°C after heating at a rate of 130°C/sec. The impact strength was measured of standard notched specimens of

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Features of the Process of Tempering After High Fr[illegible]

40KhN steel which were heated prior to hardening [illegible] current of 2.5 kc/sec, [illegible] heating speed of [illegible] to 970°C and, after hardening, they were tempered for one hour at 120, 150 and 180°C respectively. For comparison the breaking strength and [illegible] specimens after ordinary hardening and low [illegible] tempering. It can be seen from Fig.7 that the [illegible] strength for induction hardening, as well as ordinary hardening increases with increasing temperature of the low temperature tempering. Specimens heated from 970°C after heating at a rate of 10 C/sec show an increase in the breaking strength from 8 to 9.8 tons after tempering at 120°C and to 11.7 tons after tempering at 180°C. The changes in the mechanical properties were also investigated for medium and high temperature tempering for the Steels 40KhN and 40 KhG. Hardening from 1000°C followed by tempering ensures for the steel 40KhN the same properties as ordinary hardening, followed by tempering. However, hardening from 900°C with the same speed of heating and subsequent tempering produces an optimum combination of the properties, namely

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Features of the Process of Tempering After High Frequency [illegible]

impact strength and hardness than after ordinary hardening and tempering. In the case of heating prior to hardening with a speed of 400°C/sec advantages compared to ordinary hardening are observed in the case of hardening from 1000 and 1100°C; the impact strength will be lower in the case of hardening from 1200°C. The heating speed of 100°C/sec is inadvisable since for the chosen temperatures of hardening and subsequent tempering the impact strength will be lower than for ordinary hardening. For tempering temperatures exceeding 350°C the increase in hardness due to high frequency hardening does not remain conserved for the Steels 40KhF and 40KhG. At higher tempering temperatures (up to 600°C) the hardness of high frequency hardened steel may in some cases be lower than of the same steel after conventional hardening which is obviously due to a difference in the kinetics of the processes of coagulation in steel hardened after induction heating. High frequency hardening does not suppress type I and type II temper brittleness. These are observed at the same tempering temperatures as for conventionally hardened steel.

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Features of the Process of Tempering After High Frequency Hardening

However, the impact strength at the temper brittleness temperatures is considerably higher for steels which were high frequency hardened under optimum heating regimes than for steels which were hardened by standard methods of heating. The here given experimental data indicate that there is a relation between the regime of high frequency hardening and the subsequent tempering, i.e. between the character of the distribution of carbon and the alloying elements after hardening and their redistribution after tempering, which has a considerable influence on the changes of the mechanical properties of hardened and tempered steel.
There are 7 figures and 16 references, 15 of which are Soviet, 1 English.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

1. Steel--Heat treatment 2. Tool steel--Heat treatment 3. Steel--Properties 4. Steel--Transformations 5. High frequency heating--Applications

11710

23996
[illegible]/148/61/000/005/016/017
E111/E180

AUTHORS: Kidin, I.N. and Marshalkin, A.N.

TITLE: Investigation of the decomposition of heterogeneous martensite obtained on quenching after rapid heating

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, 1961, No.5, pp. 147-152

TEXT: Tempering of steel after induction hardening is an important subject whose specific features, particularly the heterogeneity of [illegible], make existing ideas on tempering after ordinary hardening inapplicable. I.N. Kidin has shown (Ref.1. Fizika metallov i metallovedeniye, V.3, No.2, 1956, 299-305) that martensite crystals developed in steel hardened after rapid heating can have a relatively high carbon content and he has also studied the effect of heating rates on carbon distribution (Ref.2. I.N. Kidin, Fizika metallov i metallovedeniye, V.3, No.2, 1956, pp.306-308; Ref.3. I.N. Kidin, Ye.[illegible] Astaf'yeva, Metallurgiya, 1958, No.1; Ref.4. I.N. Kidin, Ye.[illegible] Astaf'yeva, A.N. Marshalkin, Metallovedeniye i obrabotka metallov, 1958, No.9). X-ray data for type 40 steel show that there is a maximum heterogeneity for a

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23996

Investigation of the decomposition ... S/148/61/000/005/010/015
E111/E180

given temperature for each heating rate, the heterogeneity rising with increasing heating rate. These and other (e.g. Ref.7: G.V. Kurdyumov, A. Lysenko, Zh. T. F., 1950, No.1, 41) observations show that steel subjected to definite high frequency hardening schedules consists of a large number of martensite crystals of increased carbon concentration which do not change on cooling during quenching and of crystals of low carbon martensite partially decomposed with precipitation of a highly dispersed carbide phase. This structural heterogeneity of martensite introduces several peculiarities into its decomposition-kinetics. To elucidate these, dilatometric experiments have been carried out and the effects of temperature and duration of tempering on electrical resistivity and coercive force studied. 2.5-mm diameter wire test pieces of type 40 and У8 (U8) steels were used, resistance heating was applied for heating to hardening temperature. Quenching was in brine at -8 °C, followed by cooling in liquid nitrogen. A high-frequency dilatometer, of A.V. Panov design (Ref.12: I.N. Kidin, A.V. Panov, Zavodskaya laboratoriya, V.23, No.1, 1957) [Not described - Abstractor] was used with a magnification of 3×10^4. Dilatometric curves are shown in

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Investigation of the decomposition

Fig.3 for type 40 steel after ordinary hardening from 870 °C (circles) and after hardening from 950 °C (with rapid heating) (squares) (abscissa in time, mins). The authors point out that under practical conditions the differences should be even more pronounced. The dilatometric results are confirmed by those of measurements of resistivity changes. The differences are greater at lower tempering temperatures. Qualitatively similar results were obtained with type 18 steel but differences were smaller. The decrease in tempering time or decrease in temperature for a given time which this investigation shows to be possible with rapid heating to hardening temperature is advantageous both from the economic and steel quality aspects. The latter was studied on several structural carbon and alloy steels. It was found that good mechanical properties are obtained only under strictly controlled hardening and tempering conditions. Rapid heating for hardening gives a better combination of hardness and plasticity, probably because of the greater extent of decomposition of the solid solution, preservation of its heterogeneity greater degree of dispersion and the distribution of precipitated carbide phase.

23996

Investigation of the decomposition S/148/61/000/005/010/015
E111/E180

For alloy steels the extent of alloying and distribution of alloying elements in the alpha-solution are also important. Fig.5 shows the R_c hardness and impact strength (kgm/cm²) as functions of tempering temperature for a steel with 0.6% C and 1% Cr for a tempering time of 15 minutes (°C/sec = deg/sec) (Curve 1 - 170°/sec 1050° curve 2 - 85°/sec, 1000°, curve 3 - usual tempering : curve 4 - 40°/sec 950°
Conditions represented by curve 1 evidently produce the optimum heterogeneity both for carbon and chromium, which in the subsequent tempering leads to better mechanical properties. Similar behaviour was observed with a 0.4% C, 4.2% W steel and other alloy steels. The authors emphasise the useful practical results from the application of induction hardening in heat treatment.
There are 5 figures and 13 references: 11 Soviet, 1 German and 1 English. The English language reference reads as follows:
Ref.8: R.H. Aborn Metal Progress, No.6, V 68, 1955.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: January 21, 1961

Card 4/5

KIDIN, I.N.; MARSHALKIN, A.N.

Mechanism of pearlite-austenite transformations under the effect of rapid heating. Izv. vys. ucheb. zav.; chern. met. 5 no.3: 136-143 '62. (MIRA 15:5)

1. Moskovskiy institut stali.
(Steel--Heat treatment) (Phase rule and equilibrium)

KIDIN, I.N.; MARSALKIN, A.N. [Marshalkin, A.N.]

Mechanism of perlite-austenite transformation in rapid heating.
Analele metalurgie 16 no.4:88-95 O-D '62.

L 13071-66 EWT(m)/EWP(w)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) JD/HW

ACC NR: AP5028578 SOURCE CODE: UR/0148/65/000/011/0136/0140

AUTHOR: Kidin, I. N.; Marshalkin, A. N.; Gokhberg, Ya. A.; Marchenko, V. Z.; Mizonov, Yu. M.; Kachapin, A. A.

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: Effect of the deformation of austenite prior to patenting on the properties of carbon-steel wire

SOURCE: IVUZ. Chernaya metallurgiya, no. 11, 1965, 136-140

TOPIC TAGS: carbon steel, wire, rupture strength, plasticity, metal drawing, metal heat treatment, material deformation, ultimate strength, fatigue strength

ABSTRACT: The authors present the results of an experimental method for improving the strength and plasticity of carbon-steel wire by combining its thermomechanical treatment with sorbitizing and cold deformation by drawing. In view of the difficulties that might be encountered when thermomechanical treatment is combined with deformation by drawing (possibility of rupture, etc.), the thermomechanical treatment included deformation of the austenite by rolling prior to sorbitizing. The wire was heated by the electrocontact method at the rate of 50 and 400°C/sec prior to its sorbitizing. Following thermomechanical treatment (TMO) with deformation by rolling (60% reduction of area) the strength of 2.5-mm diameter wire proved to be 28 kg/mm^2 higher than following conventional patenting, and there was also some increase in

Card 1/2 UDC: 669.14:621.771.42

L 13071-66

ACC NR: AP5028578

plasticity which may be attributed to the onset of initial stages of recrystallization and the formation of a polygonal structure of the α-phase. On cold drawing of patented wire following its THO the ultimate strength continually increases with increasing draft. When the draft reaches 84%, ultimate strength rises to 260 kg/mm^2, which is some 110% higher than immediately after THO. The improvement in plasticity is such that the wire can be bent 25-28 times instead of 8-10 times and twisted 33-35 times instead of 8-12 times. This new method of producing high-strength wire dispenses with the need of employing the patenting process based on the use of lead and salt baths, makes it possible to obtain a wire with higher mechanical properties than following conventional patenting and cold drawing, increases by a factor of 2 or 3 the rate of heat treatment and markedly expands the possibilities for its automation. Orig. art. has: 2 tables, 4 figures.

SUB CODE: 11, 13/ SUBM DATE: 12Apr65/ ORIG REF: 004/ OTH REF: 001

Card 2/2 HW

L 32975-66 EWT(m)/EWP(k)/T/EWP(w)/EWP(t)/ETI IJP(c) JD/HW
ACC NR: AP6017521 (A) SOURCE CODE: UR/0148/66/000/001/0141/0144

AUTHOR: Kidin, I. N.; Marshalkin, A. N.; Mizonov, Yu. M.; Kachapin, A. A.

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: The use of electrothermomechanical working in the production of high-strength wire

SOURCE: IVUZ. Chernaya metallurgiya, no. 1, 1966, 141-144

TOPIC TAGS: electric power source, hot working, high strength metal, drawing, mechanical property, carbide phase, wire, steel

ABSTRACT: A study was done on the electrothermomechanical (etmo) processing of steel wires. Micrographs of etmo wires after tempering showed oriented carbides in the working direction while the deformed austenite exhibited fragmented grains with an oriented substructure characteristic of polygonized metals. For 1 mm diameter wires, strength levels as high as 260 kg/mm^2 were obtained after etmo, with reductions in area of 40 to 50%. Mechanical properties are given as a function of tempering temperature (from 300 to 600°C) for different thermomechanical treatments and etmo. In no case did the amount of compressive deformation imparted by working exceed 35%. During etmo, the wires were heated 50°/sec by roller contacts operating from an ac transformer at 60 kv, drawn into wire, spray quenched and subsequently electrotempered. The strength of etmo wires was

UDC: 621.771.42:621.785

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L 32975-66
ACC NR: AP6017521

about 100 kg/mm^2 higher than for ordinary quench and temper treatments, due to the suppression of both carbide coagulation and recrystallization. Also, a beneficial structure orientation resulted as evidenced by x-ray patterns. Because the rapid heating maintains more carbon in solid solution, the width of the (110) and (220) lines was greater than for ordinary quench and temper treatments. Since tempering at 500°C decreased the strength from 240 to 170 kg/mm^2, the effects of cold working by drawing were examined as a means of obtaining better mechanical properties. With 75% deformation the yield stress rose to 240 kg/mm^2 with a reduction in area of 28 to 32%. Orig. art. has: 5 figures.

SUB CODE: 11/ SUBM DATE: 11Aug65/ ORIG REF: 005

Card 2/2

L 24518-66 EWT(m)/EWP(t)/EWP(k) IJP(c) JD/HW

ACC NR: AP6009514 SOURCE CODE: UR/0413/66/000/005/0031/0031

AUTHOR: Kidin, I. N.; Shirbanyan, A. S.; Gokhberg, Ya. A.; Marshalkin, A. N.; Burkhanov, S. F.; Marschenko, V. Z.; Mizonov, Yu.M.

ORG: none

TITLE: Fabrication of steel wire. Class 18, No. 179348

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 5, 1966, 31

TOPIC TAGS: steel wire, wire production, austenitizing, deformation, patenting, cold drawing

ABSTRACT: An Author Certificate has been issued describing a method for producing steel wire, including electro-contact heating to austenitizing temperature, reduction, patenting, and cold drawing. In order to improve the mechanical properties of the wire and reduce the heat treating cycle, the wire deformation is carried out simultaneously with cooling down to 400-450C followed by patenting in air. [LD]

SUB CODE: 13/ SUBM DATE: 14Dec64/

Card 1/1 BLG UDC: 621.785.79:621.785.47:621.778.1

MARSHALKIN, G. A.

"Theory of Drive Mechanism for the Turret Head of High-Production Wrapping Machines." Sub 30 Jun 47, Moscow Technological Inst of the Food Industry

Dissertations presented for degrees in science and engineering in Moscow in 1947.

SO: Sum.No. 457, 18 Apr 55

MARSHALKIN, G.A., dotsent, kandidat tekhnicheskikh nauk.

Compacting chocolate on vibrating machines. Trudy MTIPP 2: 463-471 '52. (MLRA 9:2)
(Chocolate)

MARSHALKIN, Georgiy Aleksandrovich; GUSAKOV, A.I., inzh., retsenzent; VOCHERSKIY, P.A., dots, retsenzent; KRUGLOVA, G.I., red.; CHEBYSHEVA, Ye.A., tekhn.red.

[Engineering equipment for confectionery production] Tekhnologicheskoe oborudovanie konditerskogo proizvodstva. Moskva, Pishchepromizdat, 1957. 571 p. (MIRA 11:2)
(Confectionery--Equipment and supplies)

AVDEYEVA, A.V., doktor tekhn.nauk; ALEKHIN, S.F., inzh.; ALTUNDZHI, K.S., inzh.; BRONSHTEYN, I.I., kand.khim.nauk; BRUSHTEYN, M.S.; GRIGOR'YEV, F.B., inzh.; ZHELEZNOVA, V.V., inzh.; ISTOMINA, M.M., kand.tekhn.nauk; KOZLOV, S.A., inzh.; KOLESNIKOVA, V.K., inzh.; KOCHETKOV, I.A., inzh.; LUNIN, O.G., kand.tekhn.nauk; MANNINA, T.A., inzh.; SEREBRYAKOV, M.N., inzh.; SMOLYANITSKIY, M.Ye., inzh.; TYURIN, A.I., kand.tekhn.nauk; TSYBUL'SKIY, A.A., inzh.; CHERNOIVANNIK, A.Ya., inzh.; SHKLOVSKAYA, A.Ye., inzh.; BEN', G.M., inzh., retsenzent; MARSHALKIN, G.A., kand.tekhn.nauk, retsenzent; GUSAKOV, A.I., red.; MARTYNOV, M.I., kand.tekhn.nauk, red.; KRUGLOVA, G.I., red.; KISINA, Ye.I., tekhn.red.

[Confectioner's manual] Spravochnik konditera. Pod obshchei red. M.I. Martynova. Moskva, Pishchepromizdat. Pt.2.[Technological equipment of the confectionery industry] Tekhnologicheskoe oborudovanie konditerskogo proizvodstva. 1960. 630 p. (MIRA 14:3)
(Confectionery--Equipment and supplies)

GERNET, M.M., doktor tekhn.nauk,prof.; DIKIS, M.Ya., doktor tekhn.nauk, prof.; LUK'YANOV, V.V., doktor tekhn.nauk,prof.[deceased]: POPOV, V.I., doktor tekhn.nauk,prof.; SOKOLOV, A.Ya.,doktor tekhn.nauk,prof.: SOKOLOV,V.I.,doktor tekhn.nauk,prof.; SURKOV,V.D.,doktor tekh.nauk,prof.; BARANOVSKIY, N.V., kand.tekhn.nauk,dots.; BROYDO, B.Ye., kand.tekhn. nauk, dots.; BUZYKIN, N.A., kand.tekhn.nauk, dots.; GOROSHENKO, M.K., kand.tekhn.nauk, dots.; GORTINSKIY, V.V., kand.tekhn.nauk, dots.; GREBENYUK, S.M., kand.tekhn.nauk, dots.; GUS'KOV, K.P., kand.tekhn. nauk, dots.; DEMIDOV, A.R., kand.tekhn.nauk, dots.; ZHISLIN, Ya.M., kand.tekhn.nauk, dots.; KARPIN, Ye.B., kand.tekhn.nauk, dots.; KOSITSYN, I.A., kand. tekhn.nauk, dots. [deceased]; GEYSHTOR, V.S., kand.tekhn.nauk, dots.; MARSHALKIN, G.A., kand.tekhn.nauk, dots.; MOLDAVSKIY, G.Ye., kand.tekhn.nauk, dots.; ODESSKIY, D.A., kand. tekhn.nauk, dots.; PELEYEV, A.I., kand.tekhn.nauk, dots.; RUB, D.M., kand.tekhn.nauk, dots.; SKOBLO, D.I., kand.tekhn.nauk, dots.; SHUVALOV, V.N., kand.tekhn.nauk, dots.; KHMEL'NITSKAYA, A.Z., red.; SOKOLOVA, I.A., tekhn. red.

[Principles of the design and construction of machinery and apparatus for the food industries] Osnovy rascheta i konstruirovaniia mashin i apparatov pishchevykh proizvodstv. Moskva, Pishchepromizdat, 1960. 741 p. (MIRA 14:12)

(Food industry—Equipment and supplies)

MARSHALKIN, G. A.

Doc Tech Sci - (diss) "Theory of estimation of technological equipmentation in confection enterprises." [Moscow], 1961. 24 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Technological Inst of the Food Industry); 150 copies; price not given; (KL, 7-61 sup, 230)

BARNA, Yanosh [Barna, Janos], dr., inzhener khimik; MARSHALKO, Bela [Marshalko Bela] inzhener khimik

Newer achievements in rheological tests of bentonite dispersions in water. Izvestiia Bany KI no.5:164-182 '61.

MARSHALKO'ICH, D.B., polkovnik med. sluzhby

Rapid method for determining the erythrocyte sedimentation rate. Voen. med. zhur. no.2:80-81 F '57 (MIRA 12:7)

(BLOOD SEDIMENTATION, determination, rapid method (Rus))

MARSHALKOVICH, D.B., polkovnik meditsinskoy sluzhby

Use of colored stamsp in medical classification. Voen.-med. zhur. no. 6:21-22 Je '60. (MIRA 13:7)
(MEDICINE, MILITARY)

MARSHALKOVICH, D.B., polkovnik meditsinskoy sluzhby; SACHENKO, N.L., podpolkovnik meditsinskoy sluzhby; BELOUSOV, G.G., podpolkovnik meditsinskoy sluzhby; NOVIKOV, I.I., mayor meditsinskoy sluzhby; FURMAN, M.A., mayor meditsinskoy sluzhby

Organization of work at a receiving and sorting section of a therapeutic hospital. Voen.-med. zhur. no.6:15-17 Je '61. (MIRA 14:8)
(HOSPITALS) (RADIATION SICKNESS)

MARSHALKOVICH, D.B., polkovnik meditsinskoy sluzhby; SACHENKO, N.I., podpolkovnik meditsinskoy sluzhby; AZBUKIN, G.V., podpolkovnik meditsinskoy sluzhby; BELOUSOV, G.G., podpolkovnik meditsinskoy sluzhby; KITAYGORODSKIY, N.I., podpolkovnik meditsinskoy sluzhby; FILIPPOVICH, B.A., podpolkovnik meditsinskoy sluzhby

Rendering of emergency aid at the regimental medical aid station to persons poisoned with toxic organophosphorus substances. Voen.-med. zhur. no.3:19-22 '65. (MIRA 18:11)

MARSHALKOVICH, N.D.; UKHOV, A.Ya.

Phage typing of local typhoid fever cultures and its importance in epidemiological practice. Zhur. mikrobiol., epid. i immun. 41 no.3: 140-141 Mr '64. (MIRA 17:11)

1. L'vovskiy meditsinskiy institut.

MARSHALKOVSKIY, Yu.F.

A modernized pickup. Razved.i prom.geofiz. no.31:87-89 '59.
(MIRA 13:4)

(Oil well logging)

MARSHALL, R.; SZLASA, S.

Telex network. p. 337.
(TELE-RADIO. Vol. 2, no. 7, July 1957, Warszawa, Poland)

SO; Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 1957. Uncl.

MARSHALL, R.

Equipment of a telegraph station. p. 364.
(TELE-RADIO. Vol. 2, no. 8, Aug. 1957, Warszawa, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 12, Dec. 1957. Uncl.

ANANOV, A.A.; MARSHANISHVILI, G.D.

Design of guard rails for small radius curves. Trudy GPI [Gruz.] no.7:3-8 '63. (MIRA 18:6)

MARSHANIYA, I. I.

Dissertation: "Influence of Doses of Mineral and Organic Fertilizers on the Growth and Development of Trifoliate (Buckbean) Seeds and Annual Lemon Plants." Cand Agr Sci, Georgian Order of Labor Red Banner Agricultural Inst, 28 May 54. Zarya Vostoka, Tbilisi, 18 May 54.

SO: SUM 284, 26 Nov 1954

PROSTAKOV, N.S.; GRIDUNOV, I.T.; MARSHAVINA, N.L.; RODIONOVA, V.G.

Synthesis of dithio[2,5-dimethyl-4-oxo(hydroxy)-1-piperidyl]carbamic acid and 1,2,5-trimethylthio-4-piperidone. Zhur.ob.khim. 34 no.2:467-469 F '64. (MIRA 17:3)

1. Universitet druzhby narodov imeni P.Lumumby i Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

L 06344-67 EWP(j)/EWT(m) IJP(c) RM
ACC NR: AP6030326 (A,N) SOURCE CODE: UR/0153/66/009/003/0491/0493

AUTHOR: Gridunov, I. T.; Prostakov, N. S.; Rodionova, V. G.; Marshavina, N. L.; Fomina, V. A.

ORG: Department of Rubber Technology, Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov (Kafedra tekhnologii reziny, Moskovskiy institut tonkoy khimicheskoy tekhnologii); Peoples' Friendship University im. Patrice Lumumba (Universitet druzhby narodov)

TITLE: Effect of 1,2,5-trimethyl-4-phenyl-Δ^4-didehydropiperidine on the plasticity of Nairit and the physicomechanical properties of its vulcanizates

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 9, no. 3, 1966, 491-493

TOPIC TAGS: polychloroprene, plasticizer, vulcanization, RUBBER

ABSTRACT: The effect of 1,2,5-trimethyl-4-phenyl-Δ^4-didehydropiperidine (PD) admixtures on the plasticity of Nairit rubbers subjected to identical milling at room temperature and the influence of heating time on the plastic properties of the rubbers (with and without PD) were studied. In addition, the effect of PD on vulcanizates of composition A (Nairit 100.0, zinc oxide 5.0, MgO 10.0, rosin 5.0, stearic acid 1.0 pt. by wt.) was also studied. It was found that as the PD content rises, the plasticity of Nairit increases; this shows that during the mechanical treatment, degradation of the rubber takes place in the presence of PD. The rate of reaction of PD with poly-

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L 05344-67
ACC NR: AP6030326

chloroprene is much higher than the rate of oxidative-destructive processes. PD has an appreciable effect on the physicomechanical properties of the vulcanizates. As its content increases, the moduli, tensile strength and tearing strength decrease somewhat. It is apparent that during the vulcanization of Nairit in the presence of PD, not only -C-C- and -C-O-C- bonds, which strengthen the vulcanizates, are formed, but in addition, bonds like those of quaternary ammonium salts (which do not strengthen the vulcanizate) may be formed, causing the observed decrease in strength characteristic. Other things being equal, this process is much slower in the presence of ZnO than in the presence of MgO. Orig. art. has: 2 figures and 1 table.

SUB CODE: 11/ SUBM DATE: 06Jul64/ ORIG REF: 001

Card 2/2 MLE

MARSHAVINA, Z. V. --

"Biological Characteristi cs of Some Species of the Dandelion Genus." Cand Biol Sci, Inst of Plant Physiology, Acad Sci USSR, Moscow, 1953. (RZhBiol, No 4 Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

PANOSYAN, A.K.; AKUTYUNYAN, R.Sh.; MARSHAVINA, Z.V.

Effect of metabolites of certain soil micro-organisms on the growth and development of plants. Dokl.AN Arm.SSR 31 no. 2 117-121 '60. (MIRA 13:11)

1. Sektor mikrobiologii Akademii nauk Armyanskoy SSR.
2. Chlen-korrespondent AN Armyanskoy SSR (for Panosyan).
(Soil micro-organisms) (Plant physiology)

PANOSYAN, A.K.; MARSHAVINA, Z.V.; ARUTYUNYAN, R.Sh.

Effect of metabolites of some soil micro-organisms on the growth and development of plants. Trudy Inst. mikrobiol. no.11:275-283 '61 (MIRA 16:11)

1. Sektor mikrobiologii AN Armyanskoy SSR.

MNDZHOYAN, A.L.; CHAYLAKHYAN, M.Kh.; MARSHAVINA, Z.V.

Effect of some indole derivatives on root formation in plants. Izv. AN Arm. SSR. Biol. nauki 14 no.3:3-7 Mr '61. (MIRA 14:3)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.
(INDOLE) (GROWTH PROMOTING SUBSTANCES)

PANOSYAN, A.L.; ARUTYUNYAN, R.Sh.; [illegible], Z.V.

Effect of soil bacteria on the growth and development of corn and tobacco. Dokl. AN Arm. SSR 33 no.2:73-77 '61.
(MIRA 14:10)

1. Chlen-korrespondent AN Armyanskoy SSR (for Panosyan).
(Soil micro-organisms)
(Tobacco) (Corn (Maize))

PANOSYAN, A.K.; ARUTYUNYAN, R.Sh.; MARSHAVINA, Z.V.

Effect of the metabolites of soil micro-organisms, heteroauxin and gibberellin on the growth and chemical composition of plants. Vop. mikrobiol. no.2:39-58 '64. (MIRA 18:3)

MOCHALIN, M.P., kand.tekhn.nauk; MARSHEV, A.S., inzh.; YAKOVLEV, V.G., inzh.

SBU-2 and SBu-4 self-propelled drilling rigs. Gor. zhur. no.6:56-58 Je '62. (MIRA 15:11)

1. Institut gornogo dela im. Skochinskogo (for Mochalin).
2. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut podzemnogo shakhtnogo stroitel'stva, Moskva (for Marshev, Yakovlev).
(Boring machinery)

MARSHEV, M.A., podpolkovnik med.sluzhby

Use of quinacrine in influenza. Voen.med.zhur. no.12:77 D'57
(MIRA 11:5)

(QUINACRINE)
(INFLUENZA)

MARSHEV, N.I

ZHUKOV, Vasiliy Andreyevich; MESYATSEV, P.P., retsenzent; LICHNOV, A.I., inzh., retsenzent; SHIROKOVA, Z.G., inzh., retsenzent; GUREVICH, B.D., inzh., retsenzent; BASTANOV, S.S., inzh., retsenzent; GOLOVINA, K.N., inzh., retsenzent; BEL'TSEV, A.N., inzh., retsenzent; SOLOMATIN, V.V., inzh., retsenzent; MARSHEV, N.I., inzh., retsenzent; MARSHEV, N.I., inzh., retsenzent; BALASHEVA, T.I., inzh., retsenzent; GIRSHMAN, G.Kh., red.; ANGELEVICH, N.E., red.; SOBOLEVA, Ye.M., tekhn.red.

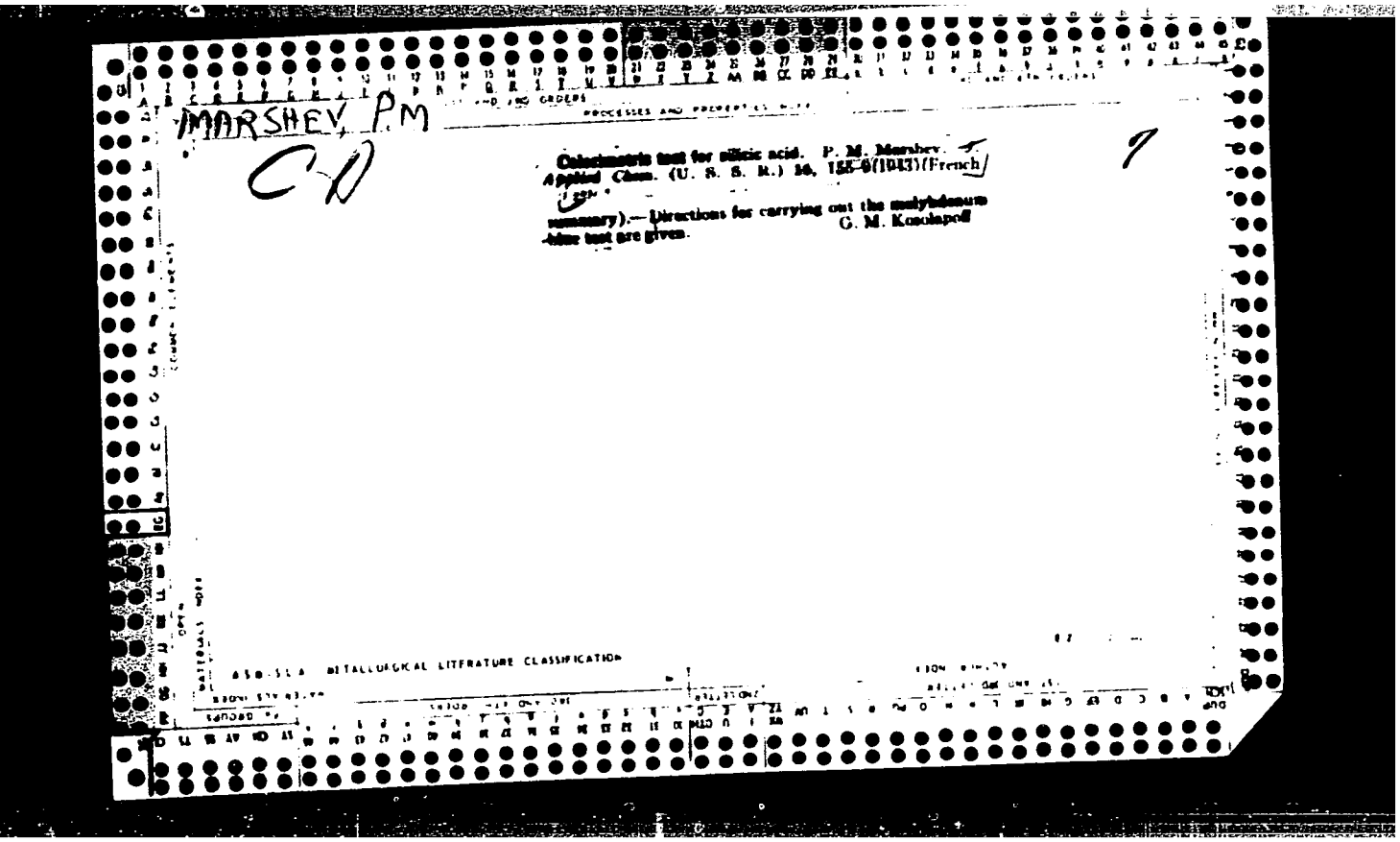
[Technology of the manufacture of radio equipment] Tekhnologiia proizvodstva radioapparatury. Moskva, Gos.energ.izd-vo, 1959. 636 p. (MIRA 13:3)

(Radio industry)

MARSHEV, P.M.

Micromethod for the determination of glycerol. Lab. delo no.10:601-604 '64. (MIRA 17:12)

1. Kafedra biokhimii Kuybyshevskogo meditsinskogo instituta.


MARSHEV, P.M.

Colorimetric test for silicic acid. P. M. Marshev. Applied Chem. (U. S. S. R.) 16, 155-9(1943)(French summary).—Directions for carrying out the molybdenum blue test are given. G. M. Kosolapoff

MARSHEV, P. M.

Marshev, P.M. "Method of detecting fat," Trudy Kuybyshevsk. gos. med. in-ta, Vol. I, 1948, p. 282-88

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

MARSHEV, P.M.; KAPLANSKIY, S.Ya., redaktor; GABERLAND, M.I., tekhnicheskiy redaktor.

[Manual of practical exercises in physical and colloidal chemistry] Rukovodstvo k prakticheskim zaniatiiam po fizicheskoi i kolloidnoi khimii. Moskva, Gos.izd-vo med.lit-ry, 1954. 146 p. (MLRA 7:11)
(Chemistry, Physical and theoretical)

MARSHEV, S. F.

Marshev, S. F. "On the determination of [illegible] [illegible] for the operation of [illegible] [illegible] plants", Neft. [illegible]-vo, 19[illegible], No. [illegible], p. [illegible].

SO: [illegible], [illegible] Feb. [illegible], (Letopis' Zhurnal'nykh Statey, No. [illegible], 194[illegible]).

MARSHEV, V.S.

Casting cylinder heads for engines with air cooling. Mashinostroenie no.4:66 Jl-Ag '63. (MIRA 17:2)

MARKOVICH, Nikolay Mikhaylovich; MARSHEV, Valeriy Samuilovich; ZVANSKIY, Grigoriy Yefimovich; MEDVEDEV, I.F., kand. tekhn. nauk, retsenzent

[Rotary percussion machinery for drilling holes] Vrashchatel'no-udarnye ustanovki dlia bureniia shpurov. Moskva, Izd-vo "Nedra," 1964. 157 p. (MIRA 17:6)

MARSHEV, Yu.V.

Diamondless dressing of grinding wheels on thread-gridning machines. Stan. i instr. 26 no.7:29-31 Jl '55. (MLRA 8:9)
(Grinding wheels)

MARSHEVSKIY, B.E.

Case of conjoined asymmetrical twins. Khirurgiia 36 no.2:117-119 F '60. (MIRA 13:12)

(TWINS)

MARSHEVSKIY, B. E. (g. Gor'kiy, 57, ul. Beketova, d. 5, kv. 7)

Two observations of congenital right-sided hernia of the cupula of the diaphragm in children. Grud. khir. no.5:115-117 '61. (MIRA 15:2)

1. Iz kafedry detskoy khirurgii (zav. - prof. A. A. Ozherel'yev) Gor'kovskogo meditsinskogo instituta imeni S. M. Kirova (dir. - kandidat meditsinskikh nauk I. F. Matyushin) na baze khirurgicheskogo otdeleniya Detskoy gorodskoy klinicheskoy bol'nitsy (glavnyy vrach Ye. G. Krupko).

(DIAPHRAGM--HERNIA)

8(6), 14(6) SOV/91-59-10-6/29

AUTHOR: Marshevskiy V.I., Engineer

TITLE: Deterioration of Dummy Piston Packings of Steam Turbines

PERIODICAL: Energetik, 1959, Nr. 10, pp 14-16, (USSR)

ABSTRACT: Since 1930 at the Uzhgorod electric power station there have been two turbines of the firm Cerk.-Moravska, 2500 kw capacity, 18 atm, 350°C, 3000 r.p.m. The turbines are provided with the dummy piston type packing where the piston is made of steel and the ring of cast iron. In 1957, turbine Nr. 1 was in capital repair which meant a partial replacement of the dummy piston packing ring whiskers. After 7 hours of work, the turbine had to be stopped owing to the appearance of an extraordinary vibration followed by sparking and deterioration of the insulation of steam-conducting pipes. Upon examination, deterioration of the dummy piston packing with a specific one-sided melting of the piston was established (Figs 1 and 2). In 1958, an analogous damage with the turbine Nr. 2 took place. Research of both cases has led to believe that in both cases the causes of packing deteri-

Card 1/2

Deterioration of Dummy Piston Packings of Steam Turbines

oration might be: 1) Wrong construction of grooves used for packing whiskers in the ring, without a dove-tail but of a rectangular section; 2) Inadequate material of wire fastening the whiskers in the ring grooves The wire used was of steel 1-Kh-13 which has a considerably larger coefficient of expansion than common steel 3. 3) Absence of slots along the wire length, which prevented its extension in the grooves and resulted in its bulging and slipping out of the grooves. In order to eliminate such damage, the author recommends using non-resilient steels for packings, such as St. 3. The editors, however, criticize some of the author's conclusions by maintaining: 1) A rectangular groove section is adopted by many turbine-building plants and proved to be quite satisfactory; 2) Steel 1-Kh-13 has a coefficient of linear expansion nearly the same as St 3 even a little smaller; 3) Absence of slots does not entail bulging of wire, provided the process of heating passes gradually In the editor's opinion, the described damage might happen from two causes: 1) Insufficient rolling of the wire in the grooves, and 2) insufficient size of radial clearances of packings tolerated during turbine repair

Card 2/2 There are 2 photographs.

DASHCHENKO, I.T.; MARSHEVSKIY, V.I.

Installation of low-voltage power transmission lines in districts with current construction of individual dwellings. Prom. energ. 15 no.10:39-41 O '60. (MIRA 13:11)
(Transcarpathia--Electric power distribution)

MARSHEVSKIY, V.Ye.

Case of isolated invagination of the appendix in a 6-year-old child. Khirurgiia 37 no.2:136-137 F '61. (MIRA 14:1)

1. Iz khirurgicheskogo otdeleniya (zav. I.S. Vasilenko) Zadonskoy bol'nitsy (glavnyy vrach A.S. Koltakov).
(APPENDIX--DISEASES)

SOV/163-58-1-12/53

AUTHORS: Baymakov, Yu. V., Shkol'nikov, S. N., Syrovegin, A. G., Marshikova, A.

TITLE: The Transition of Iridium in the Cathode Metal in the Electrolytic Refining of Copper and Nickel (Perekhod iridiya v katodnyy metall pri elektroliticheskom rafinirovanii medi i nikelya)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 1, pp 55-61 (USSR)

ABSTRACT: By using radioactive isotopes the refining process of electrolytic copper and nickel was investigated. In electrolytic copper and nickel always gold, silver, and platinum elements occur, viz. gold and silver in quantities of 0,001 % and platinum in a quantity of 0,00001 %.
The behavior of iridium in the electrolytic refining of copper and nickel was investigated. The radioactive iridium isotope Ir^{192} was used as indicator. In the electrolysis of copper and nickel the concentration of iridium in copper approaches $(6 \div 20)\cdot 10^{-5}$ %. Usually in the electrolytic refining of copper from sulfate solutions with a density of

Card 1/3

The Transition of Iridium in the Cathode Metal in the Electrolytic Refining of Copper and Nickel

100-200 A/m^2 the iridium content in the cathode amounts to $(1 \div 9).10^{-7}$ %. In the electrolytic refining of nickel from pure sulfate solutions at a temperature of 50^0C and a current density of 100-300 A/m^2 the iridium content in the cathode amounts to $(5 \div 9).10^{-7}$ %.

In sulfate solutions containing chloride ions and in pure chloride solutions the iridium content in the cathode amounts to $(1 \div 3).10^{-4}$ % The other platinum metals react similarly to iridium.

In the electrolysis of copper, iridium ion is formed by the following reaction:

$$Ir + 2\ Cu + \rightleftarrows Ir^{2+} + 2\ Cu^{+2}$$

To produce metals of highest purity and with a minimum content of iridium the authors recommend using anode diaphragms in the analysis and carrying out the electrolysis of nickel at higher temperatures and that of copper at lower temperatures.

There are 11 tables and 1 reference, 1 of which is Soviet.

Card 2/3

SOV/163-58-1-12/5

The Transition of Iridium in the Cathode Metal in the Electrolytic Refining of Copper and Nickel

ASSOCIATION: Leningradskiy politekhnicheskiy institut
(Leningrad Polytechnical Institute)

SUBMITTED: October 1, 1957

Card 3/3

ANDREYEV, A.S.; MARSHIKOVA, A.; TELYATNIKOV, G.V.

Determination of magnesium and calcium in primary aluminum and aluminous materials (bauxites). Trudy LPI no.201:51-55 '59. (MIRA 13:3)
(Magnesium--Analysis) (Calcium--Analysis) (Bauxite)

MARSHIN, I.N.

A complex bullet wound of the abdomen. Vest.khir. 81 no.12:83-84
D '58. (MIRA 12:2)

1. Iz N-skoy voskovoy chasti.
(ABDOMEN, wds. & inj.
gunshot (Rus))

MARSHIN, I.N.

Combined internal supravesical and right inguinal hernias.
Khirurgiia 35 no.3:103 Mr '59. (MIRA 12:8)
(HERNIA)

17(1)

SOV/20-126-6-66/67

AUTHORS: Lobashev, M. Ye., Savvateyev, V. B., Marshin, V. G.

TITLE: Adaptation to an Unconditioned Stimulus in the Process of the Formation of a Conditioned Reflex (Adaptatsiya k bezuslovnomu razdrazhitelyu v protsesse obrazovaniya uslovnogo refleksa)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 6, pp 1395-1398 (USSR)

ABSTRACT: Usually the adaptation process of the animal organism in the ontogenesis is regarded as the result of two systems of reflex activity: conditioned and unconditioned. However, the interrelation of these two systems is a complex combination of the adaptation processes taking place, according to their mechanism, synchronously or asynchronously. The reflex adaptation changes are conditioned by a system of combinations which is closed at the central end of the analyzer. At the same time an adaptation to each of the individual stimuli, both conditioned and unconditioned, in the receptors of the peripheric part of the analyzer is possible. Here a coupled adaptation to two or more simultaneous stimuli can come about. By including the conditioned-reflex activity into the adaptation process of the organism in the

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phylogenetic series the influence of external agents becomes a coupled influence, according to the principle of conditioned reflexes. For these reasons it is necessary to consider the differences in the mechanisms of adaptation to unconditioned stimuli and adaptation coming about according to the principle of conditioned reflexes. When a defence reflex is worked out with the support of an electric current, an adaptation to the latter occurs after a number of applications. As the number of combinations increases, the stimulus threshold is changed, and the intensity of the support must be increased. This increase is necessitated by the fact that the level of excitation in the unconditioned center has to be increased for the purpose of developing and fastening the conditioned reflex. (Refs 1-3). In the experiments carried out by the authors with fish a conditioned reflex - cessation of respiration caused by a light stimulus supported by increased water temperature - was developed. As the number of combinations was increased, the reaction of the adaptation of the movement of the gill cover to both conditioned and unconditioned reflexes was included in the study; with each combination the temperature threshold was recorded at which respiration ceased. With the increasing

number of combinations these data rendered it possible to study the duration and character of the signal effect of the light and to observe the adaptation dynamics of the fish to an unconditioned stimulus. The raising of the temperature threshold at which respiration ceased served as an index of the increase in resistance to temperature due to adaptation. It was found in the case of the tench (Tinca tinca L.) that the orientation reaction appears in the form of a slowing of the gill cover movement or a complete cessation of respiration if lit with a lamp of 40 watts and up. The rate of extinction of the orientation reflex proved to be a function of the intensity of the light stimulus. This is in complete agreement with the "Law of the Intensity" found for the rate of formation of conditioned reflexes. Experiments carried out in a number of variants with ten fish yielded identical results. At the beginning of the experiment, when the conditioned reflex to lamp light is developed, respiration stops as soon as the water temperature has reached 22-24°. With an increase in the number of combinations an adaptation to temperature comes about and the threshold at which respiration stops is raised to 31-32°,

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in some animals even 34°. It therefore becomes necessary, in developing the conditioned reflex to a light stimulus with the support of temperature, to increase the temperature for the following combinations, as soon as the temporary combination has become fixed, i.e., as soon as the light stimulus combined with a high temperature has attained the significance of a signal (after 19-20 combinations) the cessation of respiration was adapted to the signal agreed upon for all different water temperatures (Fig 1). 2 adaptation mechanisms can be clearly distinguished. They do not preclude one another, but are complementary. They are called "unconditioned - reflex" and "conditioned - reflex adaptation" by the author. There are 1 figure and 3 Soviet references.

ASSOCIATION: Institut fiziologii im. I. P. Pavlova Akademii nauk SSSR (Institute of Physiology imeni I. P. Pavlov, Academy of Sciences, USSR)

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USSR/Mining Equipment Aug 48
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Lamellar calcite from the "Mir" pipe. Geol. i geofiz. no.1 165-169 '65. (MIRA 18:6)

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L 12460-63 EDS ESD-3 S/066/63/000/002/003/004

AUTHOR: Rotenberg, A. G., Candidate of Technical Sciences; Marshov, V. M., Engineer

TITLE: New designs of level relays

PERIODICAL: Kholodil'naya tekhnika, no. 2, 1963, 10-13

TEXT: Tow new types of two-position level relays - PRU-2 with ball floating pickup and PRUK-2 with conductometric pickup - have been developed at the Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti (All-Union Scientific Research Institute of the Cold Storage Industry). A modified version of type PTK-2 temperature relay is used as a semiconductor amplifier for both relays. Schematic diagrams of the relays are presented in Figures 2 and 4 of enclosures 1 and 2 respectively. Both relays were tested for mechanical strength as well as in a medium of liquid and gaseous ammonium of a testing refrigerating plant. The results of the latter test are summarized in Figure 5 of enclosure 3. These results show that the resistance of ammonium vapor is 50 times higher than that of liquid ammonium. Both relays are recommended for use with ammonium, freon,

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